

Introduction and Background - Section 1

Using the Planning and Implementation Guide

The Guide is designed to help agencies understand the environmental and public health impacts of their day-to-day decisions and actions, and is intended to provide agencies with broad-based goals and specific actions that they can take to initiate greening government efforts, while still providing necessary services and ensuring efficient and effective operations.

It is important to note that many of the strategies and actions recommended in the Guide can be implemented at little or no additional cost to an agency, while using existing staff and resources. Additionally, other strategies and actions that may have an upfront cost often reduce the operational costs of an agency, resulting in overall savings within a short time frame. When prioritizing strategies and actions for implementation, agencies should take into account the over-all cost of each activity and initially select those based on the best payback period, potential environmental impacts and ease of implementation.

This Guide is a living document and will be updated periodically by the State Greening Government Administrative Committee, either to provide up to date information for existing sections or add new sections on new topics. New sections will be posted on the State website, www.colorado.gov/greeninggovernment.

This Guide consists of three primary sections:

1. Introduction and Background – information on environmental issues of concern, sustainability principles and the rationale for establishing a state greening government program.
2. Greening Government Area Program Guidance – Five topics describing specific environmental impacts and issues associated with human activity, long-term goals for state government, and specific strategies and action steps that agencies should take, where appropriate, to achieve environmental and economic improvements. The topics include:
 - Energy Efficiency
 - Water Conservation and Quality
 - Waste Reduction and Recycling
 - Environmental Preferable Purchasing
 - Transportation
3. Agency Greening Government Planning – a step-by-step guide to help agencies initiate and manage greening government plans and implement internal greening government programs.

Agencies should use the Guide to help them develop greening government efforts and plans, but should also incorporate their own ideas into their programs. It is critical that agencies establish an ongoing process through which their efforts can be reviewed and improved upon.

Environmental Concerns – Background

It is becoming increasingly clear that our society faces many environmental issues locally, regionally, nationally and even globally. From concerns over climate change, to drought-related water shortages, to air quality in cities and towns, it is clear that environmental issues affect the quality of life in our communities and around the country.

Global Issues

- Sea level has risen 4 to 8 inches over the past century.
- The last ten years (1996-2005), with the exception of 1996, are the warmest years on record.
- A federal study released in 2005 by the National Center for Atmospheric Research stated that climate change could thaw the top 11 feet of permafrost in most areas of the Northern Hemisphere by 2100, altering ecosystems across Alaska, Canada and Russia.

Regional Issues

- Tight water supplies in the west will continue to challenge communities in the region who are in competition for water for their residents, industry and agriculture.
- Noxious weeds and invasive plant species pose an increasing threat to native ecosystems, croplands, and other plant communities throughout the United States. On Federal lands in the Western United States, it is estimated that weeds occur on more than 17 million acres, with similar infestations occurring in Canada and Mexico. (USFS)
- Americans generate over 230 million tons of waste per year, about 4.5 pounds per person per day, up from 2.7 pounds per person in 1960. (EPA)

Local Issues

- Colorado residents generate about 6.1 pounds of waste per person per day, almost 2 pounds higher than the national average.
- Colorado's Fraser River is listed on American Rivers' top 10 endangered rivers in the country. Denver Water currently takes 65% of the water from the Fraser and has plans to increase the rate to 85% so it can feed the growth of Colorado's Front Range communities.

State Government Scope and Impacts

By its very nature, the activities of state government in Colorado are varied and far-reaching. From provision of medical care and higher education, to operation of parks and recreation areas, to road and building maintenance, Colorado agencies are involved in numerous activities ranging from purchasing, waste management, and building and operations, all of which consume resources and impact our environment. In addition to these operational activities, the state manages millions of dollars of road construction each year.

As one of the largest employers in the state, government is responsible for overseeing:

- Over 60 million square feet of property
- Over 5,000 buildings
- Over 9,100 miles of highways
- 22 prison facilities with some 14,000 prisoners
- Over 5,200 light and heavy duty vehicles that travel over 72 million miles

The environmental impacts associated with the construction, maintenance and operations of these facilities are significant:

Examples of Operational Environmental Impacts

<i>Agency Activity</i>	<i>Environmental/Health Impacts</i>
Energy consumption to heat and cool buildings and power appliances and equipment. Fuel for vehicles.	Greenhouse gas emissions and other air emissions that effect air quality
Day-to-day operations and public activities on state land, from office operations to state parks	Solid waste generation, incineration emissions, mercury emissions, open space for landfills.
Operation of labs, medical facilities, vehicle maintenance and print shops	Hazardous waste generation, indoor air quality
Water consumption for drinking, washing, and landscape management	Ecosystem and habitat impacts, water quantity and quality
Pest management in state buildings and along roadways to control insects, vermin and weeds	Ecosystem impacts, water quality and indoor air quality

While specific data on actual environmental impacts from state government activities are still being collected, information gathered so far demonstrates that state government impacts are significant and that government efforts can play a key role in statewide efforts to reduce environmental and health effects. In fiscal year 2005, state agencies were responsible for:

- Traveling over 72 million miles in state vehicles
- Burning over 4.2 million gallons of fuel, this equates to releasing over 4,200 tons of Carbon dioxide into the atmosphere.

In addition to the environmental impacts associated with the above activities, Colorado state agencies spend millions of dollars per year on the day-to-day management of their facilities. In fiscal year 2005, agencies spent the following:

<i>Amount Spent</i>	<i>Operational Activity</i>
\$38,000,000	Electricity
\$8,322,800	Vehicle Fuels
\$10,440,000	Water and Sewer Costs

Colorado State Greening Government Coordinating Council

In recognition of state government's environmental impact and its potential to address a number of environmental concerns, Executive Order D 005 05 established the State Greening Government Coordinating Council in July 2005. The Order calls on all state agencies to "develop and implement policies and procedures to promote environmentally sustainable and economically efficient practices".

The Greening of State Government Executive Order focuses on state agency operations and activities in order to:

- Address the environmental and health impacts associated with agency activities
- Make government more efficient and reduce operating costs
- Incorporate long-range environmental planning into day-to-day operations
- Establish state government as a model for other sectors
- Help ensure that future generations of Colorado citizens enjoy a quality of life at least as high as today's

A State Greening Government Administrative Committee, made up of representatives from the Office of Energy Management and Conservation, Colorado Department of Public Health and Environment and Colorado Department of Personnel and Administration, directs the program and coordinates efforts with all agencies. The Council meets regularly to review recommendations from the Steering Committee on the five greening government program areas, and decides on priority activities that state agencies should be taking for improving the environment and saving state funds. Each member of the Council will have a greening government team at their agency that will help in the implementation of agreed upon projects. For more information on Greening Government, go to: www.colorado.gov/greeninggovernment.

Defining Sustainability

It is important that state agencies understand how greening government activities will lead to a long-term goal of having a sustainable Colorado and that agencies have a common understanding of what sustainability means.

Sustainability has many definitions but the most commonly accepted definition comes from the 1987 World Commission on Environment and Development Brundtland Report:

Meeting the needs of the present generation without compromising the ability of future generations to meet their needs.

While working to achieve a sustainable Colorado through greening government activities, agencies need to think about their activities with the context of the following long-term goals and principles:

Using Resources and Materials Efficiently and Wisely

- Produce electricity from renewable sources
- Ensure that buildings and vehicles are the most efficient possible
- Recycle the majority of solid waste and minimize total waste generated
- Generate virtually no hazardous waste
- Ensure that local water bodies and water supplies remain of high quality and are not depleted beyond nature's ability to manage and replenish ecosystems

Using Purchasing Power to Protect the Environment

- Buy products that do not contain mercury or other persistent bio-accumulative toxins (PBT's) e.g. lead, mercury, PCB's and dioxin
- Ensure that new, and renovated buildings and roadways are constructed in ways that minimize impacts on the surrounding environment
- Make purchasing, management, and operational decisions based on life-cycle costs that incorporate the true environmental costs as well as short-term and long-term economic impacts

Promoting Sustainable Decision Making Processes

- Make staff aware of environmental and health issues as part of their normal routines
- Ensure that long-term environmental, health, and economic impacts are incorporated into decision making-processes